

AMENDMENTS TO THE SPECIFICATION

Please delete the present Abstract of the Disclosure.

Please add the following new Abstract of the Disclosure:

A speed control apparatus having a high frequency generator for superposing a high frequency signal on an estimated magnetic flux axis. A high frequency component extractor extracts an error signal of a magnetic flux position from a voltage or current detection signal having the same frequency component as a frequency component of the high frequency signal. A magnetic flux observer estimates a magnitude and a position of a magnetic flux. A first adaptive regulator adaptively regulates an error signal on a high frequency superposing side. A second adaptive regulator adaptively regulates an error signal on a magnetic flux observer side. A hybrid device switches the first adaptive regulator at a very low speed, the first and second adaptive regulators at a low speed and the second adaptive regulator at a high speed. A speed estimator estimates a speed from an output of the hybrid device.